

AMENDMENTS TO THE CLAIMS

Claims 1 -31 (Canceled)

Claim 32 (New): A vacuum processing system comprising:

a load port on which a plurality of cassette containers is to be arranged in a first direction, each of cassette containers holding a plurality of objects to be processed;

a common transfer chamber having first and second sides which are opposite to each other, the load port being provided on the first side of the common transfer chamber;

a plurality of process units provided on the second side of the common transfer chamber along the first direction, each of the process units including a process chamber in which the object is processed and a transfer section positioned between the process chamber and the common transfer chamber, the respective process units extending from the common transfer chamber in a second direction;

a first transfer device provided in the common transfer chamber to transfer the object between each of the transfer sections and common transfer chamber; and

a plurality of second transfer devices each of which is provided in each of the transfer sections to transfer the object between the process chamber and the transfer section of the same process unit.

Claim 33 (New): The vacuum processing system according to claim 32, in which the first transfer device is movable within the common transfer chamber in the first direction.

Claim 34 (New): The vacuum processing system according to claim 32, in which the transfer section includes first and second buffers provided therein and selectively supporting the object in the transfer section.

Claim 35 (New): The vacuum processing system according to claim 32, which further comprises an auxiliary load port on which at least one cassette container is arranged and detachable attached to the common transfer chamber aligned in the load port, and at least one auxiliary process unit detachable attached to the common transfer chamber, the auxiliary process unit including a process chamber in which the object is processed and a transfer section positioned between the process chamber and the common transfer chamber, the process chamber and transfer section of auxiliary process unit being arranged on one straight line.

Claim 36 (New): The vacuum processing system according to claim 35, in which the common transfer chamber includes first and second sections detachably arranged in the first direction, the first section is provided with said plurality of process units and load port, and the second section is provided with the auxiliary process unit and the auxiliary load port.

Claim 37 (New): The vacuum processing system according to claim 36, in which the first transfer device is provided in the first section, and which further includes an auxiliary transfer device movably provided in the second section, for transferring the object between the second section and the transfer section of the auxiliary process unit.

Claim 38 (New): The vacuum processing system according to claim 37, in which the auxiliary transfer device is also movable in the first section, for transferring the object between the first section and the transfer section of the process unit.

Claim 39 (New): The vacuum processing system according to claim 32, in which at least one of the second transfer devices includes a supporting portion on which the object is mounted, and the supporting portion is only movable in the second direction during the transferring of the object.

Claim 40 (New): A vacuum processing system comprising:

- an elongated load port on which a plurality of cassette containers are to be arranged in its elongated line of the load port, each of cassette containers holding a plurality of objects to be processed;

- an elongated common transfer chamber extending along the load port;

- a plurality of process units, each of the process units including a process chamber in which the object is processed and a transfer section positioned between the process chamber and the common transfer chamber, the process chamber and transfer section of each process unit being arranged on one straight line, the respective process units extending from the common transfer chamber so that the straight line is substantially normal to the elongated line;

- a first transfer device provided in the common transfer chamber to transfer the object between each of the transfer sections and common transfer chamber; and

- a plurality of second transfer devices each of which is provided in each of the transfer sections to transfer the object to be processed between the process chamber and the transfer section of the same process unit.

Claim 41 (New): The vacuum processing system according to claim 40, in which the first transfer device is movable within the common transfer chamber along the elongated line.

Claim 42 (New): The vacuum processing system according to claim 40, in which the transfer section of each process unit includes a vacuum transfer chamber capable of evacuation.

Claim 43 (New): The vacuum processing system according to claim 40, in which each of the transfer sections includes a load lock chamber and a transfer chamber, the transfer chamber being positioned between the process chamber and the load lock chamber, and the load lock chamber being positioned between the transfer chamber and the common transfer chamber.

Claim 44 (New): The vacuum processing system according to claim 43, in which the load lock chamber includes a vacuum chamber capable of evacuation and a table which is housed in the vacuum chamber and on which the object is mounted.

Claim 45 (New): The vacuum processing system according to claim 43, in which the load lock chamber has an inner space which is changeable between a vacuum state and an atmosphere state.

Claim 46 (New): The vacuum processing system according to claim 40, in which said plurality of process units includes at least two process units positioned to be adjacent, the same process gas is supplied into the process chambers of the at least two process units to process the objects therein, and which further comprises a transfer container housing the transfer chambers of the at least two process units.

Claim 47 (New): The vacuum processing system according to claim 40, in which the transfer section includes first and second buffers provided therein and selectively supporting the object in the transfer section.

Claim 48 (New): The vacuum processing system according to claim 40, in which said plurality of process units include at least two process units positioned to be adjacent, and which further comprises an intermediate path chamber interposed between the transfer sections of the at least two process units through gate valves and being capable of evacuation, the second transfer devices provided in the transfer sections of the at least two process units transferring the object between the transfer sections and the intermediate path chamber through the gate valves.

Claim 49 (New): The vacuum processing system according to claim 48, in which one of the second transfer devices provided in the transfer sections of the at least two transfer units transfers the object to the intermediate path chamber from one of the transfer sections, and the other second transfer device transfers the object to the other transfer section from the intermediate path chamber.

Claim 50 (New): The vacuum processing system according to claim 40, in which the transfer section has an inner space which is changeable between a vacuum state and an atmosphere state.

Claim 51 (New): A vacuum processing system comprising:

- a load port on which a plurality of cassette containers are to be arranged, each of cassette containers holding a plurality of objects to be processed;

- a common transfer chamber having a first transfer device;

- a plurality of process units linearly extended from the common transfer chamber at right angles thereto, each of the process units including a process section for processing the object and a second transfer device for linearly transferring the object to and from the process section without rotating of the object.

Claim 52 (New): A vacuum processing system comprising:

a load port on which a plurality of cassette containers are to be arranged, each of cassette containers holding a plurality of objects to be processed;

a common transfer chamber having an internal space therein;

a plurality of process units linearly extended from the common transfer chamber, each of the process units including a process chamber in which the object is processed and a transfer chamber having an internal space to be evacuated and positioned between the process chamber and the common transfer chamber;

a first transfer device provided in the internal space of the common transfer chamber to transfer the object between the internal space of each transfer chamber and the internal space of the common transfer chamber; and

a plurality of second transfer devices each of which is provided in the internal space of each transfer chamber to transfer the object between the process chamber and the transfer chamber of the same process unit.

Claim 53 (New): The vacuum processing system according to claim 52, in which the transfer chamber includes first and second buffers provided therein and selectively supporting the object in the transfer chamber.

Claim 54 (New): A vacuum processing system comprising:

- a common transfer chamber extending in a first direction;

- a plurality of process units linearly extended from the common transfer chamber in a second direction normal to the first direction, each of the process units including a process chamber in which an object is processed and a transfer section positioned between the process chamber and the common transfer chamber;

- a first transfer device for transferring the object between the each transfer section and the common transfer chamber; and

- a plurality of second transfer devices each of which is provided in each of the transfer sections to transfer the object between the process chamber and the transfer section of the same process unit, the second transfer device of each transfer section being inhibited to transfer the object to another transfer section.

Claim 55 (New): The vacuum processing system according to claim 54, in which the first transfer device is movable within the common transfer chamber in the first direction.

Claim 56 (New): The vacuum processing system according to claim 54, in which the transfer section includes first and second buffers provided therein and selectively supporting the object in the transfer section.

Claim 57 (New): The vacuum processing system according to claim 54, in which at least one of the second transfer devices includes a supporting portion on which the object is mounted, and the supporting portion is only movable in the second direction during the transferring of the object.

Claim 58 (New): The vacuum processing system according to claim 54, in which the transfer section has an inner space which is changeable between a vacuum state and an atmosphere state.

Claim 59 (New): A vacuum processing system comprising:

- a load port on which a plurality of cassette containers are to be arranged, each of cassette containers holding a plurality of objects to be processed;

- a common transfer chamber having at least one first transfer device to transfer the object between the load port and the common transfer chamber;

- a plurality of process units each including a process chamber in which the object is processed, a transfer chamber and a gate valve for coupling the process chamber and the transfer chamber; and

- a plurality of second transfer devices each of which is provided in each of the transfer chambers to transfer the object between the process chamber and the transfer chamber of the same process unit through the gate valve.

Claim 60 (New): A vacuum processing system comprising:

- a load port on which a plurality of cassette containers are to be arranged, each of cassette containers holding a plurality of objects to be processed;

- a common transfer chamber having an internal space therein;

- a plurality of process units extended from the common transfer unit, each of the process units including a process chamber in which the object is processed and a transfer chamber positioned between the process chamber and the common transfer chamber, the transfer chamber having a buffer mechanism therein to support the object;

- a first transfer device provided in the common transfer chamber to transfer the object between each of the transfer chambers and the common transfer chamber; and

a plurality of second transfer devices each of which is provided in each of the transfer chambers to transfer the object between the process chamber and the transfer chamber of the same process unit.

Claim 61 (New): The vacuum processing system according to claim 60, in which the transfer chamber has an inner space which is changeable between a vacuum state and an atmosphere state.

Claim 62 (New): A vacuum processing system comprising:

a load port on which a plurality of cassette containers is to be arranged along a first linear line, each of cassette containers holding a plurality of objects to be processed;

a common transfer section communicated with the load port, the object being transferred between the load port and the common transfer section;

first and second process units in each of which the object is processed;

a first transfer section communicated with the first process unit, the object being transferred between the first transfer section and the first process unit along a second linear line; and

a second transfer section communicated with the second process unit, the object being transferred between the second transfer section and the second process unit along a third linear line,

the second and third linear lines being extended in parallel with each other and in vertical with the first linear line.

Claim 63 (New): The vacuum processing system according to claim 62, in which each of the first and second transfer sections includes a load lock chamber and a transfer chamber, the transfer chamber being positioned between the process unit and the load lock chamber, and the load lock chamber being positioned between the transfer chamber and the common transfer section.

Claim 64 (New): The vacuum processing system according to claim 63, in which the load lock chamber includes a vacuum chamber capable of evacuation and a table which is housed in the vacuum chamber and on which the object is mounted.

Claim 65 (New): The vacuum processing system according to claim 63, in which the load lock chamber has an inner space which is changeable between a vacuum state and an atmosphere state.

Claim 66 (New): The vacuum processing system according to claim 62, in which each of the first and second transfer sections has an inner space which is changeable between a vacuum state and an atmosphere state.